A meta-commentary on the proposal for a meta-structure for DSM-V and ICD-11

A. Jablensky

DOI: 10.1017/S0033291709991292, Published online: 01 October 2009

Link to this article: http://journals.cambridge.org/abstract_S0033291709991292

How to cite this article:

Request Permissions : Click here
A meta-commentary on the proposal for a meta-structure for DSM-V and ICD-11

A commentary on ‘A proposal for a meta-structure for DSM-V and ICD-11’

A. Jablensky*

Centre for Clinical Research in Neuropsychiatry, School of Psychiatry and Clinical Neurosciences, The University of Western Australia, Perth, Australia

Received 28 July 2009; Accepted 12 August 2009; First published online 1 October 2009

Key words: Nosological entity, taxonomy, utility, validity.

Introduction

The protagonist of modern psychiatric nosology Emil Kraepelin wrote, late in his career, that ‘it is now necessary to turn away from arranging illnesses in orderly, well defined groups and to set ourselves instead the undoubtedly higher and more satisfying goal of understanding their essential structure’ (Kraepelin, 1920). Nearly nine decades later, both the arrangement of psychiatric disorders into well-defined groups and the understanding of their essential structure remain an unending quest, despite spectacular advances in basic neurosciences, genetics and therapeutics. The merit of the septet of papers in this issue, authored by eminent clinicians and researchers, is in putting into relief some fundamental issues still bedevilling psychiatric classification in the lead-up to DSM-V and ICD-11. The authors have set themselves the dual aims of examining the extent to which current diagnostic categories meet 11 putative criteria of ‘validity’ (proposed by a DSM-V Task Force) and of rearranging the diagnostic categories into a parsimonious number of ‘clusters’ based on shared aetiology, risk factors, neural substrates, biomarkers and treatment response, rather than only on symptom similarity and clinical course, as they claim is the case at present. Have they succeeded in building up a credible case for a new ‘meta-structure’ for DSM-V and ICD-10? The answer depends on one’s choice between the proverbial descriptions of the glass as being either half empty or half full.

The starting premise of the authors is that DSM-III/IV and ICD-10 are ‘too complex for many clinicians to use’. They set out to explore whether disorders could be grouped into broad ‘clusters’ based on: (i) shared external validating criteria; and (ii) the extent of within-cluster correlations and co-morbidity as indicators of internal homogeneity. They highlight some important issues that can only be addressed by systematic analysis based on solid empirical evidence. A major problem with the present proposals is that the methodology underlying the definition of the five clusters is not compelling. It is not based on systematic reviews, meta-analyses or statistical taxometric approaches. Rather, it is discursive and boils down to informed expert opinion supported by selective reference to published literature. A different panel of experts reviewing the available evidence might come up with quite different conclusions. This is probably unavoidable, considering that the kind of comprehensive and definitive evidence that might support a major overhaul of the classification system in psychiatry simply does not exist at present; its acquisition is a matter for a long-range research agenda. The utility of the present proposals is that of a ‘trial balloon’, raising important questions for clinicians and researchers but being weighted down by conceptual and factual inconsistencies that attract due critique.

Conceptual limitations versus practical utility of DSM and ICD

To put things into perspective, both DSM-IV and ICD-10 are essentially classifications of diagnostic concepts, and not of ‘natural kinds’, such as people or diseases. Lacking explicit fundamental principles (i.e. being deliberately ‘atheoretical’), they are not systematic classifications in the usual sense this term is applied in biology or other branches of medicine. The taxonomic units of ‘disorders’ in DSM-IV and ICD-10 do not map onto conceptual hierarchies or other inherent relationships among the categories, and the classifications lack
Is there a compelling need for a ‘meta-structure’?

The authors claim that the present classifications are too complex and confusing but provide no evidence that this perception is universally shared. Although complexity might be partly true of DSM-IV, it is less of a problem for ICD-10 where disorders are placed in 10 major sections, each attempting (though not quite achieving) a degree of clinical and aetiological homogeneity:

F0 Organic, including symptomatic, mental disorders
F1 Mental and behavioural disorders due to psychoactive substance use
F2 Schizophrenia, schizotypal and delusional disorders
F3 Mood (affective) disorders
F4 Neurotic, stress-related and somatoform disorders
F5 Behavioural syndromes associated with physiological disturbances and physical factors
F6 Disorders of adult personality and behaviour
F7 Mental retardation
F8 Disorders of psychological development
F9 Behavioural and emotional disorders with onset usually occurring in childhood and adolescence

Although it reflects the evidence base available in the 1980s, the above broad grouping of disorders is neither arbitrary nor confusing. Demonstrable causal factors (F0 and F1), patterns of clinical presentation and course (F2–F4), and typical age at first manifestation (F6–F9) are conventional and well-tested classification criteria that need to be supplemented but are unlikely to be replaced soon by genetic, neuroscience or biomarker criteria, considering the present state of knowledge. This limitation is half-heartedly acknowledged by the authors, yet they seem to insist that the proposed clusters (i) may enhance clinical utility in primary care and also in general specialist psychiatric care; (ii) are likely to be more useful in teaching and training; (iii) may also be useful for data reporting and public health planning; and (iv) will encourage researchers to seek differences between them, in addition to comparing each disorder with healthy controls. It is difficult to see how such benefits would accrue. The proposed clusters are two levels removed from the specific disorders level at which clinicians operate in their day-to-day work. Introducing yet another ‘meta’ tier of classification is unlikely to be of much help for the fine-tuned decisions about differential diagnosis, treatment and management that clinicians have to make, and it is naïve to assume that in making such decisions competent clinicians are ignorant of whatever is presently known about risk factors, biomarkers or neural pathways. As regards the use of the clusters in databases for public health planning and in national/international morbidity reporting, the discontinuity between the current practice and the proposed novel groupings of disorders is likely to give rise to confusion and costly translation efforts (it took countries more than 10 years to convert from ICD-8/9 to ICD-10). And finally, classifications are of little use to researchers, who must be free to use any definitions of disorders they find relevant to their hypotheses, and also to pool or split disorders across any of the sections of the ‘official’ classification.

Issues of terminology

Although the proposed ‘meta-structure’ involves largely a relabelling of existing groupings of disorders,
the choice of novel terms raises questions. The proposed terms are neither unambiguously definable nor mutually exclusive. The least controversial change would be to replace the ICD-10 obsolete heading of ‘organic, including symptomatic, mental disorders’ with ‘neurocognitive disorders’, even though the authors acknowledge that disorders of cognition are not restricted to the dementias or the amnesic and delirious syndromes within this group. Similarly, the label ‘neurodevelopmental disorders’ as an umbrella term for mental retardation, motor skills and communication disorders, and pervasive developmental disorders may raise few questions. Not so with the anachronistic term ‘psychoses’ (Cluster 3), which dates back to 1845 as a synonym for ‘insanity’ or ‘madness’ (Shorter, 2005). At present, the term practically refers only to ‘reality distortion’, that is hallucinations and delusions, which do not, on their own, delineate any specific clinical group as they are associated features also in dementia, delirium, toxic states and affective disorders. Notably, both the terms ‘psychosis’ and ‘neurosis’ were eliminated from DSM-III and ICD-10 as classifiers but were retained in their adjectival, purely descriptive form. No less contestable is the term ‘emotional disorders’ for conditions as different from one another as depression, anxiety/fear disorders, obsessive–compulsive disorder and post-traumatic stress disorder. The term ‘emotion’ (i.e. ‘feeling’) is more ambiguous than ‘affect’ and ‘mood’ – terms that have at least a track record of accepted definitions in psychopathology. Have the authors a strong reason to abandon these terms?

Issues of internal consistency

A major problem is that the proposed ‘meta-structure’ adds a third tier of classification (the other two being subclusters and disorders) without explicating the taxonomic relationships between the two lower levels. Is it a hierarchical top-down relationship, or is it a bottom-up, empirically derived relationship as the term ‘cluster’ would imply in statistics? Apparently, it is neither. What is being ‘clustered’ in the meta-structure? The proposal is ambiguous on this and seems to confound clustering of individuals with clustering of attributes that individuals may display. This violates the taxonomic requirement that taxa (either classes of diseases or clusters of individuals) should be mutually exclusive and jointly exhaustive. The indeterminacy of what is being ‘clustered’ is reflected in the attempt to identify each cluster by a single feature: neural substrate abnormalities (neurocognitive cluster); early and continuing cognitive deficits (neurodevelopmental cluster); biomarkers for information processing deficits (psychosis cluster); temperamental antecedent of negative emotionality (emotional cluster); and temperamental antecedent of disinhibition (externalizing cluster). The proposed defining features remain largely undefined, are too broad, not mutually exclusive, and would be problematic in practice as inclusion/exclusion criteria for cluster membership because individuals are likely to display variable mixtures of such attributes. Unless the attributes shared among the disorders being grouped together are stringently defined (ideally, they should be represented by quantitative indicators of within-group and across-group similarities and differences), there is a risk that many of the commonalities identified on clinical opinion grounds would turn out to be either spurious or trivial on closer scrutiny. This is what may have happened here, because the actual within-cluster heterogeneity is likely to be so great as to undermine their utility. Even within the relatively robust neurocognitive cluster, the criteria of shared genetic risk, familiality, environmental factors, biomarkers, temperament, course and treatment response do not add up for an unambiguous assignment of individuals. Whereas demonstrable neural substrate abnormalities are indeed a common denominator, cognitive symptoms and deficits are not. For instance, focal brain lesions to the orbitofrontal cortex are compatible with generally normal cognition but they typically result in behavioural change (disinhibition) and emotional (lability) symptoms, which are key features of two other clusters. In fact, certain shared features across the clusters may be more significant than the features shared within the clusters. For example, the chromosome 22q11.2 deletion is a significant risk factor for mental retardation (neurodevelopmental cluster), schizophrenia (psychosis cluster) and attention-deficit/hyperactivity disorder (externalizing cluster) (Kobynsky & Sullivan, 2007). Trisomy 21, a causal factor for mental retardation (neurodevelopmental cluster) is also a risk factor for Alzheimer-type dementia (neurocognitive cluster) (Korbel et al. 2009). Several quantitative trait loci are shared across the emotional and externalizing clusters (Fu et al. 2002). A highly controversial consequence of the approach adopted is the uncertain placement of bipolar affective disorder (does it belong to the psychosis cluster or to the emotional disorders cluster?) and the implausible fragmentation of personality disorders. Probably the most contentious proposal is the lumping together of substance use disorders, antisocial and borderline personality disorders, and attention-deficit/hyperactivity disorder into an ‘externalizing cluster’. No less worrisome is that five major groups of disorders (sleep disorders, sex/gender disorders, eating disorders, paranoid, schizoid, histrionic and narcissistic personality...
disorders, tics, feeding and elimination disorders in children) remain unassigned. If these disorders were to be processed in a similar way, it is likely that several new clusters would emerge.

**Inherent contradictions within the proposed cluster of ‘psychoses’**

A fundamental issue here is the contradiction between the *a priori* selection of ‘reality distortion’ clinical symptoms, such as hallucinations and delusions, as the defining criterion of this cluster and the unsuccessful attempt to reconcile this with evidence related to the 11 putative ‘validators’ of common aetiology. The contention that this is achievable is almost negated by the authors’ realistic acknowledgement of ‘critical limitations’ in current knowledge. It is difficult to disagree with the five caveats stated at the end of the discussion: insufficient supportive evidence from the examination of research related to the 11 validating criteria; lack of a proper examination of the boundaries of the cluster; inadequate regard to phenomenological differences and similarities across the disorders; unresolved state and trait issues; and uncertainty as to where to place bipolar affective disorder. Thus, the authors acknowledge the lack of a taxonic criterion defining the cluster. Although the presence of psychotic symptoms (delusions or hallucinations, i.e. ‘reality distortion’) may, at a first glance, seem to be the common feature, the cluster excludes disorders with similarly manifest psychotic symptoms that are placed elsewhere, for example in the neurocognitive cluster (dementias, deliria) or the emotional cluster (depression with psychotic symptoms). However, the authors are prepared to include schizotypal disorder (conceptualized in ICD-10 as a subclinical, non-psychotic *formes frustes* of schizophrenia, and not a personality disorder as in DSM-IV) and leave open the issue of the appropriate placement for bipolar disorder, which in the majority of cases does not present with frank psychotic symptoms. In its present shape, the proposed cluster is, in fact, a reincarnation of the early-twentieth-century concept of a group of ‘endogenous psychoses of unknown aetiology’, reflected in ICD-7 and ICD-8. If this is the case, it is difficult to see how this cluster will have heuristic value for a future classification, or facilitate the search for shared mechanisms of pathophysiology. It does not do justice to the state of current research in this area of psychiatry. Although the evidence is far from being consistent or definitive, there is a growing understanding that the broad syndromal spectrum of schizophrenia (Kendler *et al.* 1998), a complex disorder comprising multimodal cortical abnormalities and cognitive dysfunctions with or without frank psychotic manifestations, is the end-point phenotype for heterogeneous gene networks, pathophysiological pathways and environmental modifiers. It would be prudent, at this stage, to leave it where it is in the present ICD-10 classification until real advances in its ‘deconstruction’ are achieved.

**Concluding remarks**

Although both ‘lumping’ and ‘splitting’ are legitimate alternate strategies in classification, much of the progress towards understanding the biology of medical and psychiatric disorders has so far been achieved by splitting rather than by lumping (Jablensky, 2006). It is possible that the present state of splitting that has gone too far will eventually be followed by a new lumping, but the empirical evidence that could support this is not yet available. In any event, splitting is easily amenable to subsequent lumping whereas the reverse is not feasible. How could the lumping simplification offered by the clusters be useful to clinicians? Can such clusters really aid diagnosis, that is the discernment between seemingly similar clinical presentations? This is unlikely, as increasing complexity in clinical thinking will be unavoidable in the future, with the translation of advances in neuroscience and genetics into clinical protocols and tools.

People suffering with psychiatric disorders do not present to clinicians with putative aetiological or risk factors, biomarkers or antecedent precursors; they come with subjective complaints and objective histories that need to be translated reliably into valid syndromes, course patterns and likely responses to treatment modalities. Thus, the primary objective of an improved classification of psychiatric disorders is to get the delineation of its basic clinical syndromes right. A secondary objective is to identify for the clinician the pathways leading from the presenting clinical syndrome to up-to-date information on likely aetiology, pathophysiology and treatment options. Although the solutions proposed by the authors of this set of papers are at this stage premature and devoid of adequate empirical support, the heuristic value of the ‘meta-structure’ challenge is in focusing attention on crucial questions about the organization and presentation of a future psychiatric classification.

**References**


dependence, and marijuana dependence. Archives of General Psychiatry 59, 1125–1132.


